

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
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# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference 4424-4000PC		Date of mailing (day/month/year) <b>30 SEP 2004</b>	
International application No. PCT/US04/01472		International filing date (day/month/year) 15 January 2004 (15.01.2004)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): A61B 10/00; B32B 5/16; G01N 33/544 and US Cl.: 428/402, 403, 407; 424/9.6, 489, 490; 436/64, 512, 528, 532, 535		Priority date (day/month/year) 16 January 2003 (16.01.2003)	
Applicant S1. JOHNS UNIVERSITY NEW YORK			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I      Basis of the opinion
- ☐ Box No. II      Priority
- ☐ Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV      Lack of unity of invention
- ☒ Box No. V      Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI      Certain documents cited
- ☐ Box No. VII      Certain defects in the international application
- ☐ Box No. VIII      Certain observations on the international application


## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer H. T. Le Telephone No. 571-272-1511 <div style="text-align: right;">                       Jean Proctor                      Paralegal Specialist                 </div>
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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/01472

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US04/01472

**Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-19</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-19</u>	NO
Industrial applicability (IA)	Claims <u>1-19</u>	YES
	Claims <u>NONE</u>	NO

**2. Citations and explanations:**

Claims 1-19 lack novelty under PCT Article 33(2) as being anticipated by Chandler et al (US 6,268,222).

Chandler teaches polymeric nanoparticles which are stained with different fluorescent dyes. See abstract; col. 3, lines 9-15; col. 4, lines 3-9. Cyanine dyes are taught at col. 4, lines 18-20 as most preferred. Taggants are taught at col. 4, lines 45-50. For method see examples. For cancer treatment see col. 24, lines 34-42 where manufacturing drugs using the nanoparticles is suggested.

Claims 1 and 5 lack novelty under PCT Article 33(2) as being anticipated by Henrichs et al (US 6,424,857), Baker (US 6,471,968), Feldheim et al (US 6,602,932),

Claims 1 and 5 are so broad that any polymeric nanoparticles that can bound to any substance (not necessarily fluorescent dye) will meet the claim limitations.

Henrichs: Teaches polymeric nanoparticles (nanoliposomes) attached to a fluorescent dye (col. 8, lines 8-18).

Baker: Teaches nanosized dendrimer (polymeric) that can bind to many substances.

Feldheim et al: Teaches polymeric nanoparticles with a shell on their surface which means that the particles are capable of entrapping a substance. See abstract.

Claims 1-19 meet the criteria set out in PCT Article 33(4), and thus the industrial applicability because the subject matter claimed can be made or used in the pharmaceutical industry.